

GUARDIAN

FALL PROTECTION

PERFORMANCE SAFETY GEAR



Best Hoist

Pro-3 Series Davit System

USER'S MANUAL

DO NOT THROW AWAY THESE INSTRUCTIONS!
READ AND UNDERSTAND BEFORE USING EQUIPMENT!

Guardian Fall Protection Kent, WA
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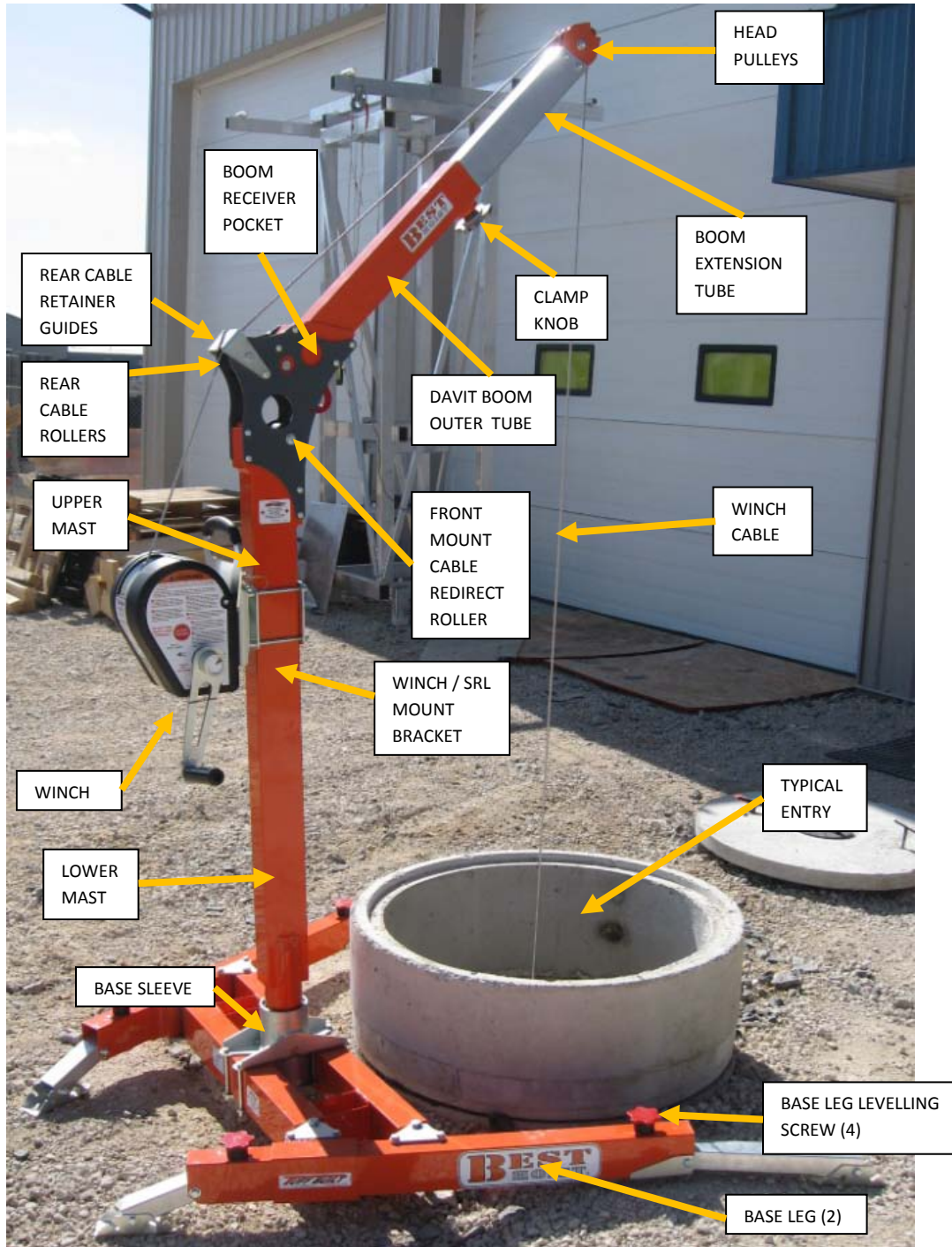
WARNING!

DO NOT:

- Do not alter or misuse this equipment unless approved by manufacturer.
- Do not use combinations of components or subsystems that may affect or interfere with the safe, compatible function of each other.
- Do not expose the equipment to chemicals which may produce a harmful effect or degrade the equipment. Consult manufacturer in cases where doubt exists.
- Do not use the equipment around moving machinery or electrical hazards unless specifically designed for such use.
- Do not use the equipment around sharp edges or abrasive surfaces unless intended for such use.

INTRODUCTION:

Thank you for purchasing the Guardian Pro-3 Series Davit System. This manual must be read and understood in its entirety, and used as part of a training program as required by OSHA or any applicable state agency. Please see the figure below for names and locations of components.



USER INFORMATION:

Date of First Use _____

Serial # _____

Trainer _____

User _____

GENERAL SYSTEM SELECTION CRITERIA:

Selection of fall protection shall be made by a Competent Person. All fall protection equipment shall be purchased new and unused.

The equipment is designed for use as a part of a personal fall protection system. Components shall not be used for any other operation other than that which it has been designed and approved.

Fall Protection Systems shall be designed to comply with OSHA or applicable state regulatory limitations. Systems must be used in a compliant manner.

This is not a fall arrest or fall restraint system and is not designed for use as an attachment point for a personal fall arrest system.

Consult a doctor if there is any reason to doubt a user's ability to withstand and safely absorb fall arrest forces or perform setup of equipment. Age, fitness, and health conditions can seriously affect the worker should a fall occur. Pregnant women and minors should not use this equipment.



TRAINING REQUIREMENTS:

The employer must ensure that each employee who might be exposed to fall hazards has been trained by a Competent or Qualified Person. The training program must include the following:

- The ability to recognize the hazards of falling
- The procedures to be followed in order to minimize these hazards.
- All Relevant Federal, State, and local regulatory requirements, procedures, and standards
- Correct erecting, maintaining, disassembling, and inspection of the fall protection systems being used
- Use of personal fall arrest systems

RESCUE PLAN:

The user is required to have a rescue plan and the means at hand to implement it when using the equipment. The plan shall be project specific. Employees shall be trained in self-rescue or alternate means shall be provided for prompt rescue in the event of a fall.

DESCRIPTION OF PRO-3 SERIES DAVIT SYSTEM:

The Pro-3 Series Davit System is constructed of high quality aluminum tubing for light weight, and features patented Tuff-Klik pin-less connections for easy set-up and tear down.

The Pro-3 Davit System is principally constructed of powder coated 6061-T6 aluminum. Steel hardware and connecting brackets are zinc plated and/or powder coated. Plating conforms to ASTM B633-85, Type III, SC2

The Pro-3 Davit Arm may be equipped with a variety of Pro-Series bases, winches, self-retracting lifelines, and other accessories to meet your needs.



PRODUCT APPLICATION INFORMATION:

The Pro-3 Series Davit System has been specifically designed and carefully manufactured to provide reliable operation in many different safety-at-heights applications. These include, but are not limited to, various combinations of:

- **WORK POSITIONING:** This product may be equipped with a winch to be used for the suspension of a worker at an elevated position for the performance of a task. When a worker is suspended in a work seat or harness, a secondary personal fall arrest system must be used which meets applicable OSHA or other local requirements.
***NOTE:** OSHA 29 CFR 1926 Subpart L considers this application to be a single point suspension scaffold and requires treatment as such.*
- **PERSONAL FALL ARREST:** This product is designed to be used with a variety of mounting base options to provide an engineered supporting structure for Personal Fall Arrest Systems (PFAS). Additionally, with the addition of a winch, the Davit Arm may be used as a rescue device to assist with the rescue of a worker who has fallen and is being suspended by his/her PFAS.
- **CONFINED SPACE ENTRY/RETRIEVAL AND RESCUE:** The Pro-3 Davit Arm, base, and winch may be used as part of a system to facilitate access to and egress from a confined space as well as non-entry rescue in the event of an emergency. When used with an approved Tuff Built Products mounting base and winch, the Pro-3 Davit System meets the requirements of OSHA 1910.146, and ANSI/ASSE Z117.1 for use as a confined space entry/retrieval and rescue device.
- **RESCUE:** The Pro-3 Davit Arm, base, and winch may be employed as part of a system meeting the requirements of ANSI/ASSE Z359.4 for the rescue of a fallen worker.
- **FALL PROTECTION WHILE CLIMBING:** In situations where it is not practical to install and use a temporary or permanently installed PFAS, the Pro-3 Davit Arm may be combined with a suitable Tuff Built Products mounting base and winch to guard against fall while climbing a ladder or other structure. The winch line can be used as an extendable anchorage connector that moves up and down with the climber. An energy absorbing lanyard installed between the winch line and the dorsal D-ring on the climber's fall body harness absorbs fall energy and reduces the arresting forces in the event of a fall. The winch must be operated so as to continuously eliminate any slack in the winch line as the climber moves up and down. The winch operator must be specifically instructed in the use of such equipment. All such installations must be designed, installed, and used under the supervision of a qualified person.



PRODUCT APPLICATION INFORMATION continued:

- **MATERIAL HANDLING:** The Pro-3 Davit Arm, when combined with a suitable Tuff Built Products mounting base and winch, may be used for the raising and lowering of tools, equipment, and other material not exceeding the rated Working Load Limit of any system component.

NOTE: *Some jurisdictions may not allow the use of the same equipment to move personnel and material. Be aware of and follow the regulations governing your workplace.*

APPLICATION RESTRICTIONS:

There are restrictions and limitations that must be carefully considered in the selection, installation, and operation of this type of equipment. Serious injury or death may result from failure to consider these factors.

- **WORKING LOAD LIMIT:** The Pro-3 Davit Arm is designed and rated to a working load limit of one (1) person weighing a maximum of 310lbs (including all clothing, tools, and equipment) when used with an approved winch or Self-Retracting Lifeline
- **SITE CHARACTERISTICS, PHYSICAL, AND ENVIRONMENTAL FACTORS:** Individual work sites have associated with them any number of hazards related to the site itself and the activities being carried out at that site. These may include, but are not limited to poisonous or explosive atmospheric conditions, poisonous or corrosive chemical hazards, hot surfaces, electrical hazards, sharp edges, engulfment hazards, or moving machinery. All of these factors must be taken into consideration when selecting equipment for a given application.



GENERAL SYSTEM REQUIREMENTS:

The Pro-3 Davit Arm is designed for use with a variety of accessories to perform many functions. There are basic requirements common to all such systems that include but are not limited to the following.

- **ANCHORAGE STRENGTH:** The Pro-3 Davit Arm is designed to be set up or installed, and used on a supporting surface (anchorage) capable of providing sufficient anchorage strength to support all applied loads with an acceptable margin of safety. The standards governing different situations specify various minimum requirements depending on the application, the work being performed, and any other factors.

However, at no time shall the anchorage provided any less than the greater of:

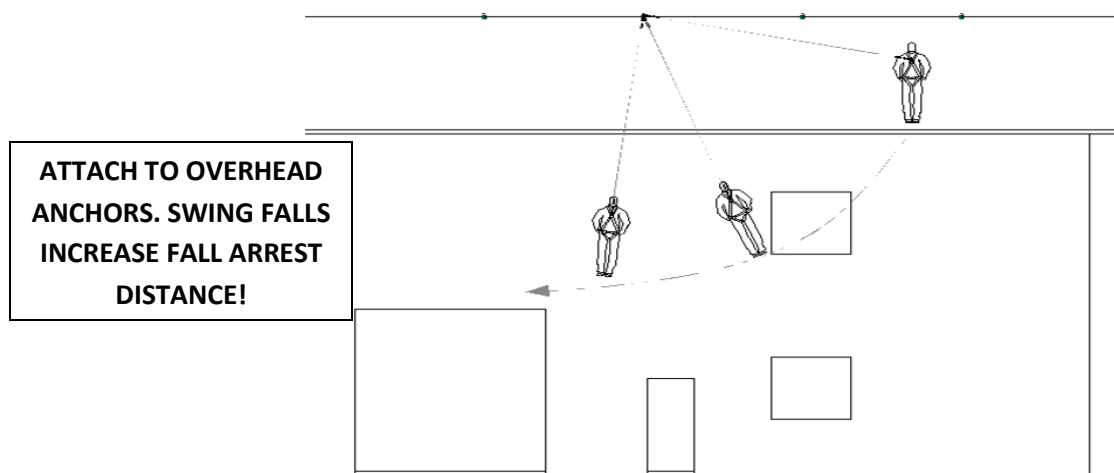
- a) 2:1 safety factor on the maximum arrest force (MAF) rating of any fall arrest system being used,
- b) 4:1 safety factor on personnel working loads applied to the system,
- c) 4:1 safety factor on material handling loads applied to the system.

All installations **MUST** be used under the supervision of a Qualified Person.

- **COMPATIBILITY OF CONNECTORS:** Connector used to connect components in the system must be compatible with each other to ensure sufficient strength and eliminate the risk of accidental disengagement or rollout during use. Connectors supplied with products designed, manufactured, and/or approved by Tuff Built Products Inc. will meet applicable compatibility requirements for connectors. Any connectors not supplied by Tuff Built Products Inc. **MUST** be approved by a Qualified Person, and installed, inspected, and used according to the respective manufacturer's instructions.
- **FULL BODY HARNESS:** Use only a full body harness designed, tested, and approved for fall arrest when connecting a person to this winch. Body belts or straps do not provide adequate support to the body to prevent serious injury or death in the event of a fall.
- **FALL PROTECTION:** Activities involving working at heights require the use of equipment to protect the worker in the event of a fall. Suitable fall protection must be provided as required by applicable local regulations when using the Pro-3 Davit System and related equipment.

GENERAL SYSTEM REQUIREMENTS continued:

- **CONFINED SPACE SAFETY:** When the Pro-3 Davit Arm is used as part of a system involving work in a confined space, always follow an approved confined space safety plan meeting all local regulations.
- **SWING ANGLE:** Care must be taken at all times to minimize the potential for swing fall when working at heights. Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object in a swing fall may cause serious injury or death. Minimize the risk of swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. **Swing falls will significantly increase the clearance required when a self retracting lifeline or other variable length connecting system is used.**



MAINTENANCE, CLEANING, AND STORAGE:

The Pro-3 Davit System has been designed to provide many years of trouble free service and requires little in the way of routine maintenance.

Any loose fasteners must be tightened and the equipment must be returned to a factory authorized service center for structural repair if necessary.

Basic cleaning should be performed at least annually as part of the annual inspection, or more frequently as required when used under harsh conditions.



MAINTENANCE, CLEANING, AND STORAGE continued:

- **CLEANING:** Use a solution of warm water and a mild detergent to clean the Pro-3 Davit System and its labels. Do NOT use solvents or other cleaners to clean the equipment as this may result in damage to the powder coat finish.
- **LUBRICATION:** After cleaning and inspection lubricate Tuff-Klik connectors with WD-40 or a similar moisture displacing penetrant as required, and wipe away any excess with a clean cloth. Do not apply oil, grease, or other lubricants that may attract and trap contaminants.

Wipe all sliding surfaces with a clean rag dampened with WD-40 or a similar moisture displacing penetrant.

- **STORAGE:** Store the Pro-3 Davit System and other related safety equipment out of direct sunlight in a cool, dry area away from dust, chemicals, or other harmful material. Always inspect before using equipment that has been stored for any extended period of time.
- **PARTS CONSIDERED NORMAL WEAR & TEAR FOR WARRANTY PURPOSES:** Pullets, rollers, labels, adjuster screws, rubber pads (where applicable), and Tuff-Klik Connectors are considered subject to normal wear and tear during use and are not covered under warranty except in cases of material or manufacturing defects.

INSPECTION:

The Pro-3 Davit Arm must be inspected before each use.

Any problems must be reported immediately to your supervisor, and the equipment labeled to prevent further use until it has been repaired.

NOTE: Any time a winch is returned to a factory authorized service center for repair, please provide photocopies of all previous Inspection Log sheets for that winch to assist with diagnosis and processing of any warranty claims.

Please obtain a Returned Goods Authorization number form the service center before sending your winch for service.

INSPECTION continued:

- **DAILY INSPECTION:** The Pro-3 Davit Arm must be inspected before each use. Report any problems or concerns to your supervisor, and do not use the equipment until they have approved doing so.
- **PHYSICAL DAMAGE:** Inspect the Pro-3 Davit System and all accessories for physical damage; bent parts, loose or missing hardware or parts, and missing, or illegible labels. Replacement labels are available from your dealer by ordering the part number shown on each label.

While minor cosmetic damage will not affect the structural integrity of the Pro-3 Davit System, seriously damaged equipment **MUST** be removed from service and returned to an authorized service center for repair prior to further use.

Additionally inspect any accessories being used with the Davit System as instructed in the User's Manual provided by the respective manufacturer at the time of purchase.

- **DAVIT OVERLOAD INDICATOR OPERATION:** The Pro-3 Davit Arm is equipped with a unique overload protection feature that guards against damage to system components and provides a visual indicator of the structure having been subjected to greater than allowing loading.

Note: Do not test Overload Indicator over an opening or where there is a chance of falling.

To inspect the Overload Indicator for proper engagement:

- Fully extend and lock the Boom Extension Tube
- Install a winch or SRL on the structure as per the applicable instructions, and
- Pull with your body weight on the lifeline and make sure there is no movement of the Extension Tube. If using a SRL, apply a sharp, steady pull on the lifeline to engage the SRL brakes, then pull on the lifeline to test the Overload Indicator.

Note: When conducting this test with an SRL, the test should be applied to the lifeline above the snaphook to eliminate any damage over time to any integral overload indicator in the snaphook itself.



INSPECTION continued:

- **ANNUAL INSPECTION:** At least annually, and more frequently if subjected to harsh conditions or excessive use, the Pro-3 Davit System **MUST** be given a detailed inspection by a Competent Person other than the user, and the results recorded in an Inspection Log. A sample Inspection Log is provided in this manual. Please make photocopies of this sample to record all inspection results.

Following the instructions for Daily Inspection, inspect the equipment for physical damage and record the results in the Inspection Log.

IMPORTANT: *Be sure to review any previous inspection records to be aware of any existing concerns and to allow for re-inspection of any potential problem areas. Cumulative findings may lead to the need for repair or replacement when looked at together.*

NOTE: *Any time equipment is returned to a factory authorized service center for repair, please provide photocopies of all previous Inspection Log sheets for that product to assist with the diagnosis and processing of any warranty claims or service issues.*

Please obtain a Returned Good Authorization number from the service center before sending your equipment for service.

INSTALLATION INSTRUCTIONS:

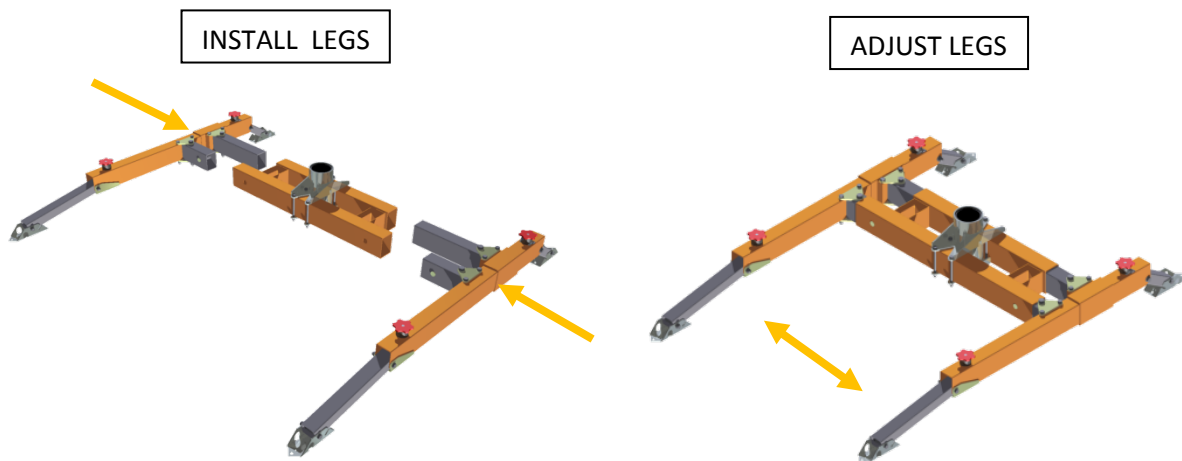
The Pro-3 Davit Arm is designed for use in conjunction with various accessories to meet different requirements. These may include winches, davits, self-retracting lifelines (SRLs), energy absorbers, and fully-body harnesses. All installations must be approved by a Qualified Person.

INSTALLATION INSTRUCTIONS continued:

- **SET-UP/INSTALLATION OF MOUNTING BASES:** The Pro-3 Davit Arm is designed for use in many types of bases depending on the given application, including service vehicle tow hitch mounted bases, barrel mount bases, counterweighted bases, and various styles of clamp-on and permanent bases.

Mounting bases must be set up or installed and used on an anchorage meeting strength requirements. Bases other than the Tuff Built Products Pro-3 Series Portable Base must be set up or installed following the Manufacturer's set up or installation instructions provide with each base.

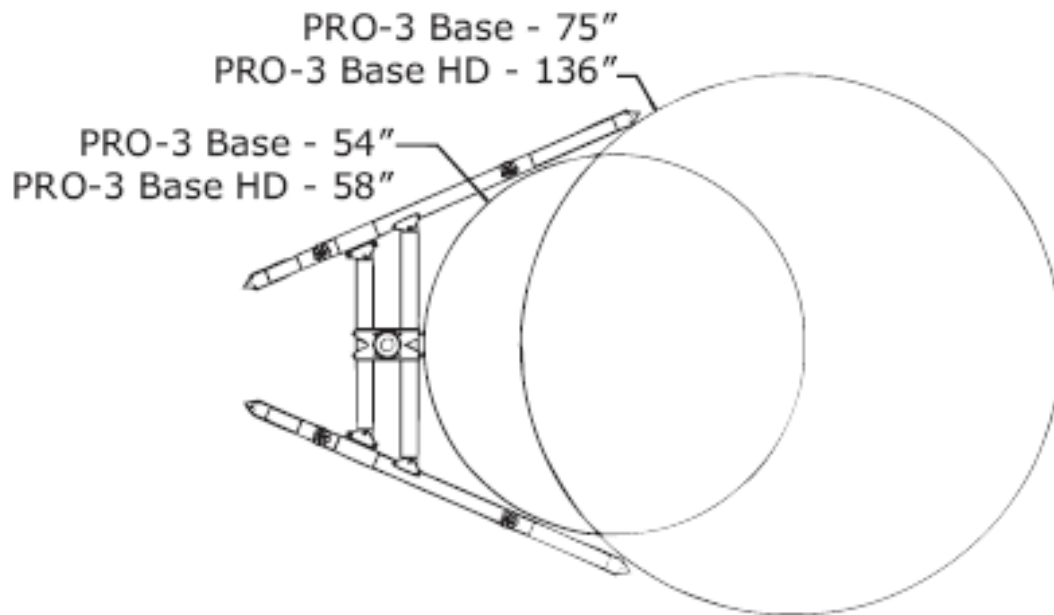
- **PRO-3 SERIES PORTABLE BASE:** If you are using a Tuff Built Products Pro-3 Series Portable Base with your Pro-3 Davit Arm, assemble the base as shown in the figures below:



Assembling & Adjusting Pro-3 Portable Base (Typical)

INSTALLATION INSTRUCTIONS continued:

NOTE: For openings larger than 75" in diameter, use the Model 30115 Pro-3 HD Portable Base.



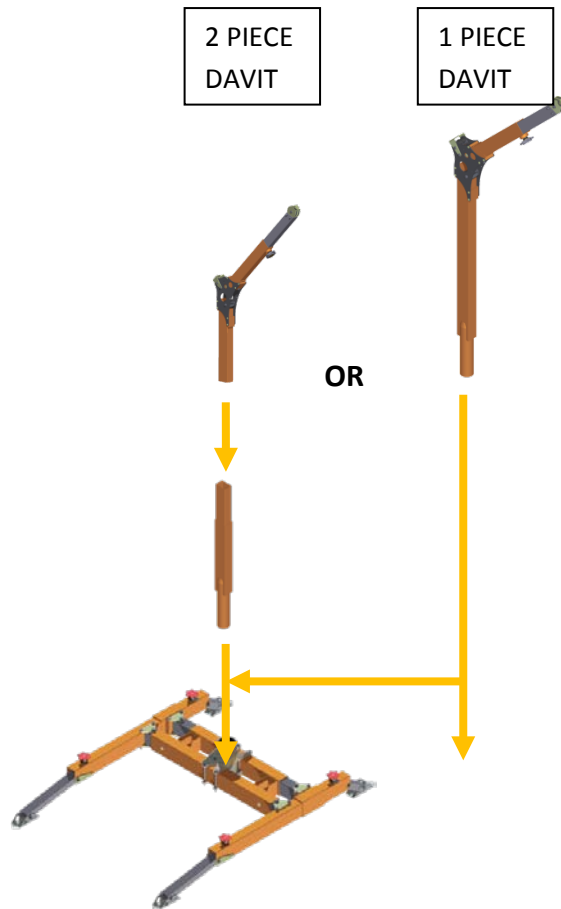
Range of Opening Sizes for Pro-3 and Pro-3 HD Portable Bases

By angling the base legs, position the base around the opening being entered so as to achieve the best access to the opening for the entrant and the best working position for the attendant.

Level the Base Assembly using the 4 Base Leg Leveling Screws, adjusting the base such that the legs angle slightly upwards as they go back to front.

INSTALLATION INSTRUCTIONS continued:

- **DAVIT INSTALLATION & ADJUSTMENT:** Install the davit into the sleeve on the base as shown in the figure below and check that the davit rotates freely in the sleeve.



Installation of Pro-I Davit Arm to Pro-III Series Mounting Base

Adjust the offset of the davit as required for the job at hand by loosening the Clamp Knob, sliding the Boom Extension Tub to the required position, and tightening the Clamp Knob to lock the Extension Boom in place. Tighten the Clamp Knob until you hear & feel the internal ratchet click at least twice to ensure proper engagement of the Overload Indicator.

Under normal working loads, the Boom Extension Tub is locked in place when the Clamp Knob is tightened. If system misuse applies excessive load to the system, the Extension Tube slides back inside the Receiver Tube to effectively shorten the arm and reduce loading to protect other parts of the system.

INSTALLATION INSTRUCTIONS continued:

IMPORTANT: Movement of the Extension Tube under loading indicates that excessive force is being applied to the system and the activity causing the movement **MUST** be stopped immediately.

- **WINCH, SRL, & ACCESSORY INSTALLATION:** Please refer to the User's Manual provided with all Tuff Built Products Inc. accessories at the time of purchase for detailed information on the installation of winches or SRL's onto the Davit System.

For accessories not supplied by Tuff Built Products Inc., the Qualified Person responsible for the design, installation, and use of the system must provide detailed information regarding the installation of the winch or SRL onto the system.

Install any additional accessories required for the job at hand according to the appropriate User's Manual or other instructions as applicable.

- **SYSTEM OPERATION:** Once all accessories have been properly installed onto the system, accessory operation is as outlined in the applicable User's Manual. Manuals for winches, SRL's, or other accessories provided by Tuff Built Products Inc. are provided with the equipment at the time of purchase.

Replacement manuals are available from Tuff Built Products Inc. or your local dealer.

No person shall use this winch without receiving proper training.

Any user must fully read and understand this manual and any other instruction manual(s) related to the system being used, or have the instructions explained to them, before using this equipment.

LABELS:

All labels must be present and legible on the Pro-3 Series Davit System.

Note: Not all labels shown may be present on your equipment, as some are related to standards and certifications that may not apply to your jurisdiction.

This product complies with ANSI/ASSE Z359.4 P# 115285 Rev.00	This product complies with ANSI Z117.1 P# 115286 Rev.00
This product complies with OSHA 1910.146 P# 115287 Rev.00	This product complies with EN 1496 P# 115288 Rev.00
This product complies with EN 795 P# 115292 Rev.00	Lubrication Please refer to Operator's manual for instructions. P# 115284 Rev.00
Tuff Built Products Inc. Model: Date of Manufacture (mm/dd/yy): Part #: Serial #: P# 115281 Rev.00	



INSPECTION LOG:

USER MUST INSPECT EQUIPMENT BEFORE EACH USE. COMPETENT PERSON TO INSPECT AND INITIAL AT LEAST EVERY 6 MONTHS.												
Date of First Use												
YR.	J	F	M	A	M	J	J	A	S	O	N	D

This is a permanent system and has no expiration date. However regular semi-annual inspection is required

***WE PUT OUR NAME ON THE PRODUCT
BECAUSE YOU PUT YOUR LIFE ON THE LINE.***

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